

USSN: 10/580,709
Attorney Docket: 2003.023 US
Response to Office Action of December 2, 2008

Amendments to the Specification:

Please amend the paragraph bridging lines 11- 17 on page 3 in the following manner:

The level of nucleotide homology can be determined with the computer program "BLAST 2 SEQUENCES" by selecting sub-program: "BLASTN," **that can be found at www.ncbi.nlm.nih.gov/blast/bl2seq/bl2.html.**

A reference for this program is Tatiana A. Tatusova, Thomas L. Madden FEMS Microbiol. Letters 174: 247-250 (1999). Parameters used are the default parameters:
Reward for a match: +1. Penalty for a mismatch: -2. Open gap: 5. Extension gap: 2. Gap x_dropoff: 50.

Please amend the paragraph bridging lines 20- 28 on page 5 in the following manner:

Bacterial, yeast, fungal, insect and mammalian cell expression systems are very frequently used systems. Such systems are well-known in the art and generally available, e.g. commercially through Invitrogen (www.invitrogen.com), Novagen (www.merekbio.com) or Clontech Laboratories, Inc. 4030 Fabian Way, Palo Alto, California 94303-4607, USA. Next to these expression systems, parasite-based expression systems are very attractive expression systems. Such systems are e.g. described in the French Patent Application with Publication number 2 714 074, and in US NTIS Publication No US 08/043109 (Hoffman, S. and Rogers, W.: Public. Date 1 December 1993).

Please amend the paragraph bridging lines 27- 29 on page 7 in the following manner:

The level of protein homology can be determined with the computer program "BLAST 2 SEQUENCES" by selecting sub-program: "BLASTP", **that can be found at www.ncbi.nlm.nih.gov/blast/bl2seq/bl2.html :**

Please amend the paragraph bridging lines 24 - 31 on page 12 in the following manner:

Vaccines according to the present invention may in a preferred presentation also contain an adjuvant. Adjuvants in general comprise substances that boost the immune response of the host in a non-specific manner. A number of different adjuvants are known in the art. Examples of adjuvants are Freunds Complete and Incomplete adjuvant, vitamin E, non-ionic block polymers, muramyldipeptides, **Quill-A^(R) QUILL A[®]**, mineral oil e.g. **Bayol^(R) BAYOL[®]** or **Markol^(R) MARKOL[®]**, vegetable oil, and **Carbopol^(R) CARBOPOL[®]** (a homopolymer), or **Diluvac^(R) Forte DILUVAC[®]FORTE**.

The vaccine may also comprise a so-called "vehicle". A vehicle is a compound to which the polypeptide adheres, without being covalently bound to it. Often used vehicle

Please amend the paragraph bridging lines 18- 30 on page 15 in the following manner:

Methods for large-scale production of antibodies according to the invention are also known in the art. Such methods rely on the cloning of (fragments of) the genetic information encoding the protein according to the invention in a filamentous phage for phage display. Such techniques are described i.a. at the "Antibody Engineering Page" under "filamentous phage display" at <http://axim1.imt.uni-marburg.de/~rek/aepphage.html>, and in review papers by Cortese, R. et al., (1994) in Trends Biotechn. 12: 262-267., by Clackson, T. & Wells, J.A. (1994) in Trends Biotechn. 12: 173-183, by Marks, J.D. et al., (1992) in J. Biol. Chem. 267: 16007-16010, by Winter, G. et al., (1994) in Annu. Rev. Immunol. 12: 433-455, and by Little, M. et al., (1994) Biotechn. Adv. 12: 539-555. The phages are subsequently used to screen camelid expression libraries expressing camelid heavy chain antibodies. (Muyldermans, S. and Lauwereys, M., Journ. Molec. Recogn. 12: 131-140 (1999) and Ghahroudi, M.A. et al., FEBS Letters 414: 512-526 (1997)). Cells from the library that express the desired

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Please amend the paragraph bridging lines 9 - 20 on page 19 in the following manner:

Cloning of *L. intracellularis* gene 5608 in T7 based expression vector

Gene 5608 was amplified using primer 2179

(CATGCCATGGATTGATGGAACAGGATTAAAG) **[SEQ ID NO:3]** and 2180

(CCGCTCGAGCCATAACCCCTTCGATAC)[[.]]) **[SEQ ID NO: 4]**. In the process a 5' NcoI and 3' XhoI site were introduced into the PCR product. The obtained PCR product was digested using restriction enzymes NcoI and XhoI. The digested PCR product was subsequently ligated to pET22b that had been cut with the same two restriction enzymes. The ligation mixture was transformed to *E. coli* TOP10F and incubated o/n at 37°C. Putative transformants were checked for the right plasmid, using colony PCR. The plasmid inserts, of colony PCR positive transformants, were checked by nucleotide sequence analysis. One of the clones that contained a sequence as expected on basis of the cloning strategy was chosen and designated pET5608.